

REMARKS

Reconsideration and allowance of the above-identified application in view of the following remarks are respectfully requested.

Claims 71-102 are pending in the application. Claims 96-102 are withdrawn from consideration.

Claim Rejection – 35 USC § 112

Claims 71-95 are rejected under 35 U.S.C. § 112 second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements. Applicants have amended the claims to further clarify the claim language. By these amendments, Applicants have clarified the cooperative relationships between the elements in the claims.

Claims 84-89 have been amended to further clarify the claim language. Claims 84-89 have been amended to recite "A telephone device comprising an optical apparatus..." Support for the claim language may be found throughout the specification, for example in lines 5 through 7 in page 59 of the specification.

Claims 72-83, 85-87, 90-95 are rejected under 35 U.S.C. § 112 second paragraph, as being indefinite. Applicants have amended claim 71 to recite "an optical element."

The Examiner requests for us to point out portions of the disclosure that disclose "an optical surface which is rotationally asymmetrical with regard to an optical axis", "a memory", "an element which has a variable optical characteristic." and questions to which element the optical axis is associated.

Applicants submit that "an optical surface which is rotationally asymmetrical with regard to an optical axis" is denoted, for example, by the reference numeral 204 in Figure 51. The optical surface is described as "free curved surface 204" in line 21, page 57 of the specification. Moreover, "a free curved surface" is defined, in lines 2-4 on page 58 of the specification, as "...a kind of aspherical surface which is not axially symmetrical."

With respect to Examiner's question as to which element the optical axis is associated, Applicants submit that the optical axis refers to an optical axis of the optical surface.

With regard to the phrase "a memory," Applicants submit that a description of "a memory" may be found, for example, in lines 5 and following lines in page 59 of the specification with reference to element 207 in Figure 52 such as in the phrase "image pick up device 207 may be formed together with an IC (LSI) which has functions of a memory."

Amendment

With regard to the phrase "an element which has a variable optical characteristic," Applicants submit that "an element which has a variable optical characteristic" is denoted, for example, by reference numeral 217 in Figure 55. Furthermore, this element is described as "vari-focal DOE 217" for example, in lines 2 and following lines in page 60 of the specification. In addition, a description of "optical elements having variable optical characteristics, i.e, vari-focal diffractive optical elements..." is also provided in line 8, page 4 of the specification. A definition of "vari-focal DOE" and the like is also given "as optical elements having variable optical characteristics."

Applicants, therefore, submit that the elements of the claims have been clarified. Consequently, Applicants respectfully submit that all pending claims are in full compliance with 35 USC §112 and respectfully request withdrawal of the rejection of claims 71-95 under §112.

CONCLUSION

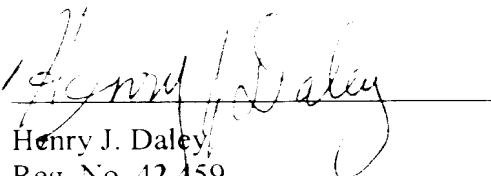
In view of the foregoing, the claims are now in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

Attached is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned **"Version with markings to show changes made"**.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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Enclosure: Appendix

APPENDIX: VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

The claims have been amended as shown below:

71. (Amended) An optical [device] apparatus comprising:
[an image pickup device;
a display device;]
an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and an optical element which has a variable optical characteristic;
an image pickup device constructed and arranged to pick up an image formed by said optical system;
a display function for displaying an image which is picked up;
a microprocessor configured to process an output signal from said image pickup device; and
a memory configured to store said output signal [; and
an element which has a variable optical characteristic] .
72. (Amended) [The] An optical [device] apparatus [according to claim 71, further] comprising:
an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and an optical element which has a variable optical characteristic;
an image pickup device constructed and arranged to pick up an image formed by said optical system;
a display function for displaying an image which is picked up;
a microprocessor configured to process an output signal from said image pickup device;
a memory configured to store said output signal; and
a view finder [device] function for determining an image pickup range.

Amendment

73. (Amended) [The] An optical [device] apparatus [according to claim 72.] comprising:
an optical system comprising an optical surface which is rotationally asymmetrical
with regard to an optical axis and a reflective type optical element which has a variable
optical characteristic;
an image pickup device constructed and arranged to pick up an image formed by said
optical system;
a display function for displaying an image which is picked up;
a microprocessor configured to process an output signal from said image pickup
device;
a memory configured to store said output signal; and
a view finder function for determining an image pickup range.
[wherein said optical element which has the variable optical characteristic is of a
reflection type.]

74. (Amended) [The] An optical [device] apparatus [according to claim 73.] comprising:
an optical system comprising a reflective type optical element which has an optical
surface asymmetrical with regard to an optical axis and has a variable optical characteristic;
an image pickup device constructed and arranged to pick up an image formed by said
optical system;
a display function for displaying an image which is picked up;
a microprocessor configured to process an output signal from said image pickup
device;
a memory configured to store said output signal; and
a view finder function for determining an image pickup range.
[wherein said reflective type optical element having the variable optical characteristic
has an optical surface which is asymmetrical with regard to the optical axis.]

75. (Amended) [The] An optical [device] apparatus [according to claim 73.] comprising:
an optical system comprising an optical surface which is rotationally asymmetrical
with regard to an optical axis and an oblique incidence type reflective optical element which
has a variable optical characteristic;
an image pickup device constructed and arranged to pick up an image formed by said
optical system;
a display device constructed and arranged to display an image which is picked up;

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a microprocessor configured to process an output signal from said image pickup device;

a memory configured to store said output signal; and

a view finder function for determining an image pickup range.

[wherein said reflective type optical element having the variable optical characteristic is of an oblique incidence type reflective optical element.]

76. (Amended) [The] An optical [device] apparatus [according to claim 72, further] comprising:

an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and a folded optical axis;

an image pickup device constructed and arranged to pick up an image formed by said optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup device;

a memory configured to store said output signal; and

a view finder function for determining an image pickup range.

[an optical system which has a folded optical axis.]

77. (Amended) [The] An optical [device] apparatus [according to claim 72,] to be manufactured by lithography comprising:

an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and an optical element which has a variable optical characteristic;

an image pickup device constructed and arranged to pick up an image formed by said optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup device;

a memory configured to store said output signal; and

a view finder function for determining an image pickup range.

[wherein said optical device is manufactured by lithography.]

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84. (Amended) [The optical device according to claim 71, further comprising:
a telephone device.]

A telephone device comprising an optical apparatus, said optical apparatus
comprising:

an optical system comprising an optical surface which is rotationally asymmetrical
with regard to an optical axis and an optical element which has a variable optical
characteristic;

an image pickup device constructed and arranged to pick up an image formed by said
optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup
device; and

a memory configured to store said output signal.

85. (Amended) [The optical device according to claim 84,
wherein said optical element which has the variable optical characteristic is of a
reflection type.]

A telephone device comprising an optical apparatus, said optical apparatus
comprising:

an optical system comprising an optical surface which is rotationally asymmetrical
with regard to an optical axis and a reflective type optical element which has a variable
optical characteristic;

an image pickup device constructed and arranged to pick up an image formed by said
optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup
device; and

a memory configured to store said output signal.

86. (Amended) [The optical device according to claim 85,
wherein said reflection type optical element having the variable optical characteristic
has an optical surface which is asymmetrical with regard to the optical axis.]

A telephone device comprising an optical apparatus, said optical apparatus
comprising:

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an optical system comprising a reflective type optical element which has an optical surface asymmetrical with regard to an optical axis and has a variable optical characteristic;

an image pickup device constructed and arranged to pick up an image formed by said optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup device; and

a memory configured to store said output signal.

87. (Amended) [The optical device according to claim 85,

wherein said reflection type optical element having the variable optical characteristic is of an oblique incidence type.]

A telephone device comprising an optical apparatus, said optical apparatus comprising:

an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and an oblique incidence type reflective optical element which has a variable optical characteristic;

an image pickup device constructed and arranged to pick up an image formed by said optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup device; and

a memory configured to store said output signal.

88. (Amended) [The optical device according to claim 84, further comprising:

an optical system which has a folded optical axis.]

A telephone device comprising an optical apparatus, said optical apparatus comprising:

an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and a folded optical axis;

an image pickup device constructed and arranged to pick up an image formed by said optical system;

a display function for displaying an image which is picked up;

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a microprocessor configured to process an output signal from said image pickup device; and

a memory configured to store said output signal.

89. (Amended) [The optical device according to claim 84,

wherein said optical device is manufactured by lithography.]

A telephone device comprising an optical apparatus to be manufactured by lithography, said optical apparatus comprising:

an optical system comprising an optical surface which is rotationally asymmetrical with regard to an optical axis and an optical element which has a variable optical characteristic;

an image pickup device constructed and arranged to pick up an image formed by said optical system;

a display function for displaying an image which is picked up;

a microprocessor configured to process an output signal from said image pickup device; and

a memory configured to store said output signal.

End of Appendix